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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,641	01/16/2004	Han-Ming Wu	42P10058D	1204

7590 12/05/2005

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EXAMINER	
NGUYEN, HUNG	

ART UNIT	PAPER NUMBER
2851	

DATE MAILED: 12/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No.	Applicant(s)	
	10/759,641	WU ET AL.	
	Examiner	Art Unit	
	Hung Henry V. Nguyen	2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 October 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *51-55 and 64-77* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *51-55,64-67 and 69-77* is/are rejected.

7)☒ Claim(s) *68* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of species II (claims 51-77) in the reply filed on October 12, 2005 is acknowledged.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 51-66, and 69-77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shirasaki (U.S.Pat. 6,593,034) in view of Ivaldi (U.S.Pat. 6,507,390).

With respect to claims 51-53 and 69-71, Shirasaki discloses an apparatus and corresponding method comprising substantially all limitations of the instant claims such as: adding a first gas/inert gas to an enclosure (10) filled with a second gas/air through a vent (6) wherein the first gas is inert gas (for example: nitrogen) which has less total oxygen and carbon than the second gas which is air and the first gas/inert gas having a different gas composition than the second gas/air (see col.4, lines 58-64), and the enclosure (10) being between a mask protective device (1), a patterned mask (5) and a wall (2) connecting the mask protective device with the pattern mask and removing the second gas from the enclosure through the vent (see col.

3, lines 58-67). Shirasaki further suggests adding the first gas through at least two openings of the vent and removing the second quantity of the second gas through at least two openings (see col.10-22). Shirasaki does not expressly disclose the inlet port having " a shape to distribute a flow of the first gas over a length of a side of the enclosure" as recited in the claims of the present application. Ivaldi discloses an method and apparatus for adding purge gas into an enclosure between a pellicle, a patterned mask and a wall via a suitable inlet port (416). Ivaldi clearly teaches "suitable gas supply system for purge gas are well known in the art" (see col.7, lines 30-32). In view of such teachings, it is a concrete evidence that a change in shape of the inlet port is generally recognized as being within the level of ordinary skill in the art. It would have been obvious to one a skilled artisan to employ a suitable inlet "having a shape to distribute a flow of the first gas over a length of a side of the enclosure" of Shirasaki as suggested by Ivaldi. The purpose of doing so would have been to equalize pressure of the supplied gas across the pellicle whereby the distortion of the pellicle can be prevented.

As to claims 54 and 77, Shirasaki lacks to show removing the second gas by vacuum. Ivaldi teaches a vacuum source (418) for removing the second gas/air. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Shirasaki and Ivaldi to obtain the invention as specified in claims 54 and 77 of the present invention. It would have been obvious to a skilled artisan to utilize a vacuum source as taught by Ivaldi into the apparatus/method of Shirasaki for the purpose of removing the second gas from the enclosure.

As to claims 55, and 73, Shirasaki as modified by Ivaldi, lacks to show the inlet opening being smaller than the outlet opening. However, such a modification would have involved a

mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955). Furthermore, Ivaldi suggests that "the purge gas is inserted at a rate slowly enough so as not to cause substantially distortion to reticle 104 and or pellicle 206" (see col.8, lines 15-17). In view of such teachings, it would have been obvious to a skill artisan to make the inlet opening smaller than the outlet opening so that the rate of the second gas/purge gas supplied to the enclosure is slower than the rate of the second gas removed from the enclosure. The purpose of doing so would have been to prevent the pressure of the enclosure from being so high that could damage the reticle and or pellicle as suggested by Ivaldi.

With respect to claims 64-66 and 72, 74-76, Shirasaki as modified by Ivaldi, disclose substantially all of the limitations of the instant claims as described above. Shirasaki lacks to disclose specifically adding the first gas through at least five openings of the vent. However, as discussed, Shirasaki suggests adding the first gas through at least two openings of the vent and removing the second quantity of the second gas through at least two openings (see col.10-22) and it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art, *St. Regis Paper Co.v. Bemis Co.*, 193 USPQ 8. Also, it has been held that arrangement parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70. As such, it would have been obvious to a skilled artisan to utilize at least five openings of the vent on a same side of the enclosure of Shirasaki as modified by Ivaldi for the purpose of properly adding the first gas into the enclosure.

4. Claim 67 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shirasaki (U.S.Pat. 6,593,034) in view of Ivaldi (U.S.Pat. 6,507,390) and further in view of Shimada (U.S.Pat. 5,735,961).

With respect to claim 67, Shirasaki as modified by Ivaldi, discloses a method comprising substantially all of the limitations of the instant claims as discussed above but does not expressly disclose adding the first gas to the enclosure by diffusion and/or removing the second gas from the enclosure by diffusion. However, suitable gas supply system and purge gas system using pressure, diffusion or vacuum, are well known in the art. For example, Shimada teaches a semiconductor fabricating apparatus where the inert gas is supplied to a chamber by diffusion fashion (see col.2, lines 13-16). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Shimada and Shirasaki to obtain the invention as specified in the above claim of the instant application. It would have been obvious to a skilled artisan to add and remove the first gas and second gas from the enclosure of Shirasaki by using diffusion fashion as suggested by Shimada for at least the purpose of effectively eliminating distortion of either the mask or mask protective device due to pressure changes.

Allowable Subject Matter

5. Claim 68 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record either alone or in combination, neither discloses nor makes obvious the combination of a purging gas method having among other steps, a steps of heating a

gas in the enclosure to increase a diffusion coefficient, as recited in the claim of the present application.

Response to Amendment/Arguments

6. Applicant's amendment filed October12, 2005 has been entered. Claims 1-50 and 56-63 have been cancelled. New claims 51-55, 64-77 have been added. Applicant's arguments with respect to prior art have been carefully reviewed. They have been fully addressed and traversed in view of new grounds of rejections as set forth above.

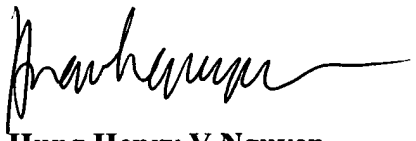
7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Henry V. Nguyen whose telephone number is 571-272-2124. The examiner can normally be reached on Monday-Friday (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Hung Henry V Nguyen
Primary Examiner
Art Unit 2851

hvn
11/28/05